TRANSPORTATION SAFETY ADVANCEMENT GROUP

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February 28, 2011

Federal Communications Commission
Office of the Secretary
445 12th Street, SW, Room TW-A325
Washington, DC 20554

Re: Framework for Next Generation 911 Deployment, NOI / PS Docket No. 10-255

Dear Chairman Genachowski and Commissioners;

Pursuant to the *Framework for Next Generation 911 Deployment* Notice of Inquiry, the Transportation Safety Advancement Group (TSAG) is providing comments in areas of our specific interest and expertise. Our comments are offered in the spirit of advancing the important work of the FCC and of the US Department of Transportation and its modal agencies associated with this critical area of emergency communications. TSAG commends the FCC for its foresight and effort dedicated to this matter. We support an early and orderly transition of our nation's legacy 911 systems to a Next Generation program that accommodates advances in communications technologies currently in broad use in our nation.

As a matter of background, TSAG is a multidisciplinary assembly of professionals sharing a common interest in *promoting technology for public safety.* Our members represent emergency response and public safety domains including fire & rescue, emergency communications, emergency medical services, law enforcement, transportation operations, emergency management, technology & telematics, and research. TSAG serves as a forum for the review of technologies for the emergency response interests in transportation-related public safety and provides input to the US DOT, ITS Joint Program Office. Our volunteer members are dedicated to enhancing both traveler and responder safety on our nation's transportation networks through the application of advanced technologies in emergency communications and response, and the promotion of interdisciplinary and interagency coordination.

Thank you for this opportunity and for your important work.

Respectfully,

Dia Gainor, Chair

c: TSAG Members
Linda Dodge, US DOT, ITS Joint Program Office
Laurie Flaherty, National Highway Traffic Safety Administration

Appendixes:
A: NG9-1-1 What's Next Project Description; B: TSAG Member Roster; C: TSAG Organization Structure

TSAG Comments
Framework for Next Generation 911 Deployment, NOI
February 2011

Note: *For reader convenience, specific comments are referenced to the NOI Paragraph # and to its corresponding (general) paragraph description.*

30	**Comment on the proper roles of the FCC, other federal agencies, and state, Tribal, and local governments in developing NG911 elements and facilitating the transition to NG911 over time.**

TSAG supports FCC's leadership and role in emergency communications regulatory and standards areas. We believe that facilitating the transition to NG911 will require a unified and comprehensive effort of multiple stakeholders/participants, of Tribal Councils and of state, regional and local governments. Moreover, private organizations and quasi public agencies will play important roles in NG911 deployment coordination, in consumer education and in supporting special needs populations' transition and training in expectations and uses of NG911.

39	**Comment on what primary and secondary media types PSAPs and service providers will likely support. Should individual PSAPs be able to choose the media types that they will support, or should all PSAPs be expected or required to support a specific set of media?**

TSAG believes that a national NG911 program must be uniformly and consistently available through local PSAPs to a highly mobile consumer. From its current work with NG911 and with first responders, TSAG notes that direct wireline or wireless voice will continue to represent the primary medium to serve emergency communications needs, with wireless devices serving as the primary mechanism used by the great majority of end users. Evidence appears to show that SMS messaging represents the secondary priority medium across all population groups, noting that special needs populations, especially hearing and speech impaired, will also be served through special needs technologies and mediums. Further, device initiated data will serve increasingly important roles in providing real time, often primary information to PSAPs and often directly to emergency responders (see Comments 58, 61).

42	**Comment on how the increasing use of SMS may impact emergency communications; whether NG911 networks should be configured to support SMS emergency communications, and comment on associated challenges regarding this medium.**

Under certain emergency settings, SMS messaging represents an important (at times an only) alternative to voice communications. Public expectations suggest that NG911 systems be configured to accept and manage SMS based emergency communications, notwithstanding the technical and operational 'challenges'. TSAG believes that these technical and operational challenges can be effectively addressed. The US DOT NG911 What's Next Initiative (*footnote*) has successfully tested the general technical aspects of SMS messaging to PSAPs. As the NOI notes, important operational 'gaps' remain to be resolved. Issues such as SMS origin location and routing; or message-receipt and message-end verification, and perhaps even 'language' conventions remain to be addressed, both through technical refinements and through 'operational' policies, including institutional and legal/regulatory and liability questions.

The FCC and associated regulatory and policy agencies can appropriately guide the development of SMS messaging requirements and the development of supporting institutional policy and legal/regulatory guidelines. Avenues for public education, referenced earlier, should engage the broad community of private and public stakeholders, noting that ultimately, public education will be necessary to facilitate effective transitions to NG911.

47	**Medical information: Should such information be provided in the ordinary course to EMS and other first responders in a manner similar to the provision of medical condition information described in paragraph 37, supra? (i.e. privacy protection)**

TSAG believes that this area of (medical) telemetry data transmission, in certain circumstances and for certain victims, is data that is critical to the EMS responder and to victims. While avenues for addressing privacy or liability matters are beyond our group expertise, their successful resolution is important to the EMS community, and will serve to support critical communications toward efficient and effective delivery of medical assistance.

54	**NG911 will require use of compatible formats across network, so that PSAPs can receive and process the text, photos, and other digital information that are sent by the public. Comment on how best to ensure such compatibility in the formatting and coding of text, photos, and other digital information.**

TSAG acknowledges the need for NG911 standards and supports the coordination of standards development among / across standards development organizations. An all inclusive process, such as that employed by ANSI accredited organizations helps to ensure all interested parties have an opportunity to contribute and offers a broader and more balanced output. The principle of ensuring compatibility and open architecture protocols in turn ensures that both vendors and service providers are building service offerings and end user products to compatible standards, functions and interfaces - - all important to communications interoperability and safety.

55	**If there is a need to develop standards for digital information transported on NG911 networks, what entity should set and update these standards, or assist in their coordination? Should the standards be national or international?**

Without regard to 'what entity' should set and update standards, TSAG notes (Comment #54) that the operational value of national standards and open architectures to communications agencies, to the emergency services provider community, and indeed to the 'framework' for NG911 itself is key to the effective deployment of NG911. Advancement of national standards to international applications will address a similarly, highly mobile and highly 'connected' international population.

56	**Comment on the potential for development of virtual PSAPs as part of the transition from legacy 911 to NG911.**

The service value 'virtual' PSAPs to a 'transitional' NG911 infrastructures is of interest as virtual PSAPs introduce a level of communications 'flexibility' while preserving and enhancing emergency communications 'interoperability'. This is especially key through the various levels of voice / data communications and across communications 'tiers', including PSAP 'push' communications; to emergency responder 'pull' communications; and to 'interchange' communications among and between responder groups.

57	**Comment on whether it is necessary to establish a national set of infrastructure components to ensure the deployment of NG911.**

If NG911 lives up to its vision of a system of systems, there are national functions and infrastructure that most certainly will need to be provisioned in order to ensure interoperability and connectivity from coast to coast. TSAG interest in this area is from the perspective of ensuring that infrastructure components associated with the transition of legacy 911 systems to NG911 consider the accommodation or adjustment of 'umbrella' mutual aid, coordination; of resources and infrastructures sharing; and of multiagency interoperability agreements among and between jurisdictions, agencies, and emergency services entities.

58	**Comment on how the deployment of NG911 will facilitate the ability of device-initiated emergency services to reach PSAPs.**

Device initiated communications and services represent important data sources for emergency responders. While TSAG is not engaged in the technical or policy questions associated with device communications to PSAPs, TSAG and its public safety/emergency responder stakeholders can attest to the increasing service and safety value of device generated data. Sensors, cameras, alarms, telematics, and vehicle electronics, among other devices provide critical responder injury *preventive* information as well as actionable information to support victim rescue.

59	**How will consumers expect to use social media for emergency purposes in the future?**

TSAG believes that the interface of social media (mediums) and NG911 systems is likely an area for new research. In some cases, social media may serve important public education and public 'alert' functions as PSAPs may 'push' advisories, alerts, or emergency 'action' information to the general public. From another perspective, the growing and expansive use of social media for personal, two way communications would suggest that 'managing' public expectations may be as important as accommodating public desires. While the delivery of emergency services indeed begins with a communicated emergency need from a public end-user, delivery of emergency services, and the communications to support such delivery, must be precise, simple, secure, and fast. Proliferation of two way communications mediums under complex emergency situations would likely complicate rather than facilitate services delivery efficiencies.

60	**N11 Numbers: How will the deployment of NG911 address N11 numbers, including N11 services such as 311, which is designated for non-emergencies?**

TSAG believes that NG911 operations design and deployment presents an opportunity for systems and PSAPs to 'capture' relevant N11 services data, such as 511 traffic and traveler information while 'filtering' or rerouting calls and data from non emergency N11 sources. This opportunity may be the focus of NG911 design advances and of operational functions.

61	**NG911 offers opportunity to provide auxiliary data to PSAPs and first responders, such as caller's medical history, description of the caller's residence or business location, and related data, including building floor plans, information about hazardous materials, and building occupants with special needs.** **How should PSAPs be informed about the availability of auxiliary data such as caller's medical history.**

TSAG reiterates the value and importance of device generated auxiliary data to a broad range of public safety and emergency responders. TSAG communities of interest and stakeholders underscore the value of such data as often critical to responder injury *prevention* and critical to support victim rescue and life saving actions.

Auxiliary data examples include:

- Building structural integrity data communicated to rescuers
- Building occupant information communicated to evacuation/emergency responders
- 'Shots Fired' information to Law Enforcement responders
- Hazmat data communicated to Fire & Rescue responders
- Vehicle battery/ electrical systems / occupant protection systems data communicated to EMS responders
- Highway surveillance systems, including video cams, lane occupancy data, and 'stopped traffic" sensors

As communications and interoperability efficiencies are enhanced through NG911 and associated support systems, auxiliary data sources can be expected to expand.

62	**How will NG911 facilitate disaster planning and recovery?**

TSAG believes that through the most fundamental of its systems' applications, NG911 represents a historical technical and operational 'leap' to facilitating disaster planning and recovery. Fundamental disaster planning and recovery functions expected to be facilitated by NG911 may include:

- Communications (voice and data) interoperability between and among responding agencies
- Enhanced PSAP operational functions, including incoming data priority management
- NG911 systems coordination and technology sharing
- Broader yet more precise integration and interfacing of response functions and activity

TSAG anticipates that NG911 represents a positive technical advancement in support of emergency responder partnerships and of emergency resources management. These advances in turn can be expected to translate to improved efficiencies, effectiveness and economies of *real time* communications, important to emergency services delivery functions.

66	**Comment on whether a timetable or deadline should be established for all PSAPs to support a minimal set of NG911 capabilities.**

TSAG would emphasize that a national program to transition to NG911 systems should follow logical state level coordination of public safety plans and transitions to NG911 systems should pursue reasonable and *timely*, yet non disruptive migration plans, implemented through similarly sound transition procedures and metrics.

77	**The IP-based nature of NG911 architecture, and its complex relationship with other systems, gives rise to concerns about maintaining the security, integrity, and reliability of NG911 networks and information. Comment on how to address these concerns - - will the deployment of NG911 allow increased security of information through role-based access control and data rights management that limits access to information only to authorized entities?**

TSAG notes that incident response, management and clearance engages an expanding circle of cross agency emergency services support entities, and/or non-traditional emergency responder partners. These partners support the information and communication systems that enable public safety, transportation, public health, and emergency management agencies to share real time voice and data communications. Cross agency and non-traditional partners may include tow operators, vehicle telematics services, traffic information services providers, traveler information systems providers, among others, each providing important surveillance, guidance, and control information in support of emergency services. NG911 systems may be expected to enhance security across data gateways to adequately address data rights and privacy management issues.

78	**What entities should lead and contribute to consumer education? Should the FCC foster common terms and terminology to facilitate deployment of NG911?**

Consumer education will clearly serve as a cornerstone of a successful NG911 transition program. As such, and key to effectively educating the NG911 consumer, education begins with a *nationally* recognized institution, driving a baseline national program, including common terminologies, and through campaigns supportive of state and local efforts.

Equipped with such national guidance and support, leadership of consumer education programs should reside in states, and delivered through regional and local NG911 organizations and institutions. The principle of *education closest to the target consumer is most responsive to unique consumer needs* applies to the emergency services industry as much as to other public service industries.

80	**Comment on whether emergency-call-only credentials would be desirable and feasible (to reduce unintentional, prank, or malicious calls to a PSAP). If so, how can they be implemented? What regulatory arrangements would be necessary to facilitate this emergency-call authentication?** **Even if new authorization procedures can be developed, it may still be necessary for NG911systems to support emergency communications in some circumstances where the caller cannot be identified. We seek comment on how this problem can be addressed.**

TSAG supports the universal availability of 911, and to whatever degree unintentional, prank or malicious calls to the PSAP interfere with this goal, these should be addressed. TSAG joins in underscoring the need to minimize prank or malicious 911 calls, as the frequency of such misuse and abuse of 911 represents a diversion of valuable and limited emergency responder resources, and too often presents unnecessary increased risk and potential of emergency responder injury or deaths.

82	**The level and manner of state-level coordination of 911 services varies widely. In some States, 911 service is strictly a local matter. Other states have centralized the 911 program function or have otherwise established a statewide coordination mechanism, although their circumstances and authority vary widely. Although the staffing of PSAPs and handling of 911 calls will generally remain a local function, aspects of transitioning to NG911 will require state level planning and implementation coordination.** **(A) Comment on the ability of states to effectively coordinate the transition to NG911** **(B) Should each State designate an organization responsible for planning, coordinating and implementing its NG911 system?** **(C) Comment on the extent of FCC's jurisdiction to oversee the transition to NG911, since PSAPs, services providers, consumer device manufacturers, and software developers will be involved.** **(D) Comment on the role that other federal agencies, such as the ICO and those entities with responsibilities to Tribal lands should play.**

TSAG has earlier observed that a 'framework' for NG911 deployment would engage many players and would be built upon key elements, including:

- A national transition plan that clearly defines jurisdiction, authority, goals, and funding mechanisms
- A national support foundation of technical, policy, and operations standards
- A state level framework for institutional, organizational and coordination support
- A mechanism for regional and local management of NG911 transition and deployment actions
- A consumer education program involving public and private NG911 stakeholders and end users

A national plan for transitioning legacy 911 systems to NG911 will necessarily involve these (and other) interests, with program authority resting with legislative bodies at each authority level.

TSAG further observes that NG911 transition planning presents an opportunity for addressing serious 'gaps' in current coverage of legacy emergency communications services, including gaps in coverage in:

- US Military posts and installations
- A great number of rural counties and remote areas
- Other gaps, including some Tribal lands

Finally, TSAG notes that the NG911 Implementation Coordination Office (ICO) has effectively administered NG911 programs leading to and including the NG9-1-1 Proof of Concept and field testing. Equipped with this background and experience, the ICO should play key leadership roles in NG911 transition planning and deployment, and in supporting the coordination of transition related consumer education programs. TSAG notes that throughout its interactions, the ICO has been consistent, diligent, and professional in administering its NG911 programs.

Concluding Observations

The Transportation Safety Advancement Group recognizes the detailed and complex nature of a national program to transition to and deploy NG911 systems. Others, including the US DOT, Research and Innovative Technology Administration, ITS Joint Program Office, have identified important transition issues which TSAG, as an active public safety partner, endorses. In doing so, TSAG underscores that transition and deployment of NG911 systems must emphasize the critical importance of identifying and addressing the associated needs of the *emergency responder*. These broadly include:

- Coordinated funding and deployment of NG911 compatible communications equipment
- Coordinated transition plans and programs
- Research on 'emergency vehicle operator distractions' related to in-vehicle systems
- Coordinated education and training of emergency responder groups

As today's legacy 911 systems are challenged by highly mobile populations and increasingly versatile communications technologies, NG911 can help address these challenges through a broad national program as described in the FCC's Notice of Inquiry. TSAG appreciates this effort and stands ready to support and participate as appropriate in helping meet these challenges.

Appendix A
NG9-1-1 What's Next Project Description

The United States Department of Transportation's Next Generation 9-1-1 Initiative (NG9-1-1) defined a vision for the future of 9-1-1. The NG9-1-1 Proof of Concept developed and deployed software and network components demonstrating desired capabilities of the NG9-1-1 system. The focus of the Proof of Concept was on the 9-1-1 call, from origination, to delivery and handling by a public safety call taker. US DOT views the NG9-1-1 project as a transition enabler, to assist the public in making a 9-1-1 call from any wired, wireless, or IP based device, and allow emergency responders to take advantage of enhanced call delivery, multimedia data and advanced call transfer capabilities. While NG9-1-1 enhances emergency 9-1-1 systems, it also generates exponential increases in the volume of information to be processed by Public Safety Answering Points (PSAP), and in turn will tax communications networks and the capacities of PSAP systems and personnel. Prioritizing and screening this data for transmission as 'actionable information' from the PSAP to field level emergency responders is the fundamental objective of this project.

NG9-1-1 WHAT'S NEXT

Under the sponsorship of the US DOT, ITS Joint Program Office, the Transportation Safety Advancement Group (TSAG) will manage the NG9-1-1 What's Next project to its objective of determining priority emergency responder information protocols associated with NG9-1-1 systems. To support the project, TSAG will recruit nationally recognized emergency responder representatives to serve as a **NG9-1-1 What's Next Working Group**. The NG9-1-1 What's Next Working Group will be comprised of recognized professionals to represent four unique Emergency Responder Groups (ERG), including Emergency Medical Services, Law Enforcement, Fire & Rescue, and Transportation Operations. Following designation of the Working Group, TSAG will convene a special **NG9-1-1 What's Next Forum**, set for September 23-24, 2010 in Washington, DC. The NG9-1-1 What's Next Forum will be structured around three half-day sessions, including a general project orientation session, followed by four ERG breakout sessions, concluding on day 2 with a general wrap up session to hear ERG Breakout Session reports and to launch the project's reports preparation phase.

The **TSAG project team** will guide the project from the composition of the NG9-1-1 What's Next Working Group to the preparation of ERG White Papers and their consolidation into a Final Report. The NG9-1-1 What's Next Working Group and associated project advisors will support the project through their professional expertise aimed at an assessment of coordinated emergency responder information needs (www.tsag-its.org).

Appendix B

TSAG Member Roster

Interest Community	Stakeholder Organizations	Designated Members
Emergency Communications	• Association of Public Communications Officials (APCO) • National Emergency Number Association (NENA) • National Public Safety Telecommunications Council (NPSTC) • National Association of State 911 Administrators (NASNA)	Jim Goerke (NENA) Nancy Pollock (APCO)
Law Enforcement	• International Association of Chiefs of Police (IACP) • National Sheriffs Association (NSA) • Major Cities Chiefs Association (MCCA) • Major Counties Sheriffs Association (MCSA)	Dan Dytchkowskyj, (NSA) Philip Strohm, (IACP)
Emergency Medical Services	• American College of Emergency Physicians (ACEP) • Association for Advancement of Automotive Medicine (AAAM) • Assoc of College Surgeons / Committee on Trauma (ACS/COT) • National Association of State EMS Officials (NASEMSO) • National Association of EMS Physicians (NAEMSP) • National Assoc of Emergency Medical Technicians (NAEMT)	Dia Gainor (NASEMSO) Ted Delbridge (NAEMSP)
Fire & Rescue	• International Association of Fire Chiefs (IAFC) • International Association of Fire Fighters (IAFF) • National Fire Protection Association (NAFP) • National Association of State Fire Marshalls (NASFM) • National Volunteer Firefighters Council (NVFC)	Mike Brown (IAFC) T. J. Nedrow (NVFC)
Transportation Operations	• American Assoc of State Highway & Transportation Officials (AASHTO) • American Automobile Association (AAA) • Governors Highway Safety Association (GHSA) • Assoc of Transportation Safety Information Professionals (ATSIP)	John Corbin, (AASHTO Jill Ingrassia (AAA)
Emergency Management	• International Association of Emergency Managers (IAEM) • National Emergency Management Association (NEMA)	Bill Hinkle, (NEMA) Richard Comerford, (IAEM)
Technology & Telematics	• American Trucking Association (ATA) • National Association of State Chief Information Officers (NASCIO) • National Association of State Technology Directors (NASTD) • Public Technology Institute (PTI)	Skip Yeakel (ATA) Cynthia Manley
Academic and Research	• Transportation Research Board (TRB) • University Transportation Centers (UTC)	Thomas West (CCIT) Dr. Robert Gray, (Penn State)

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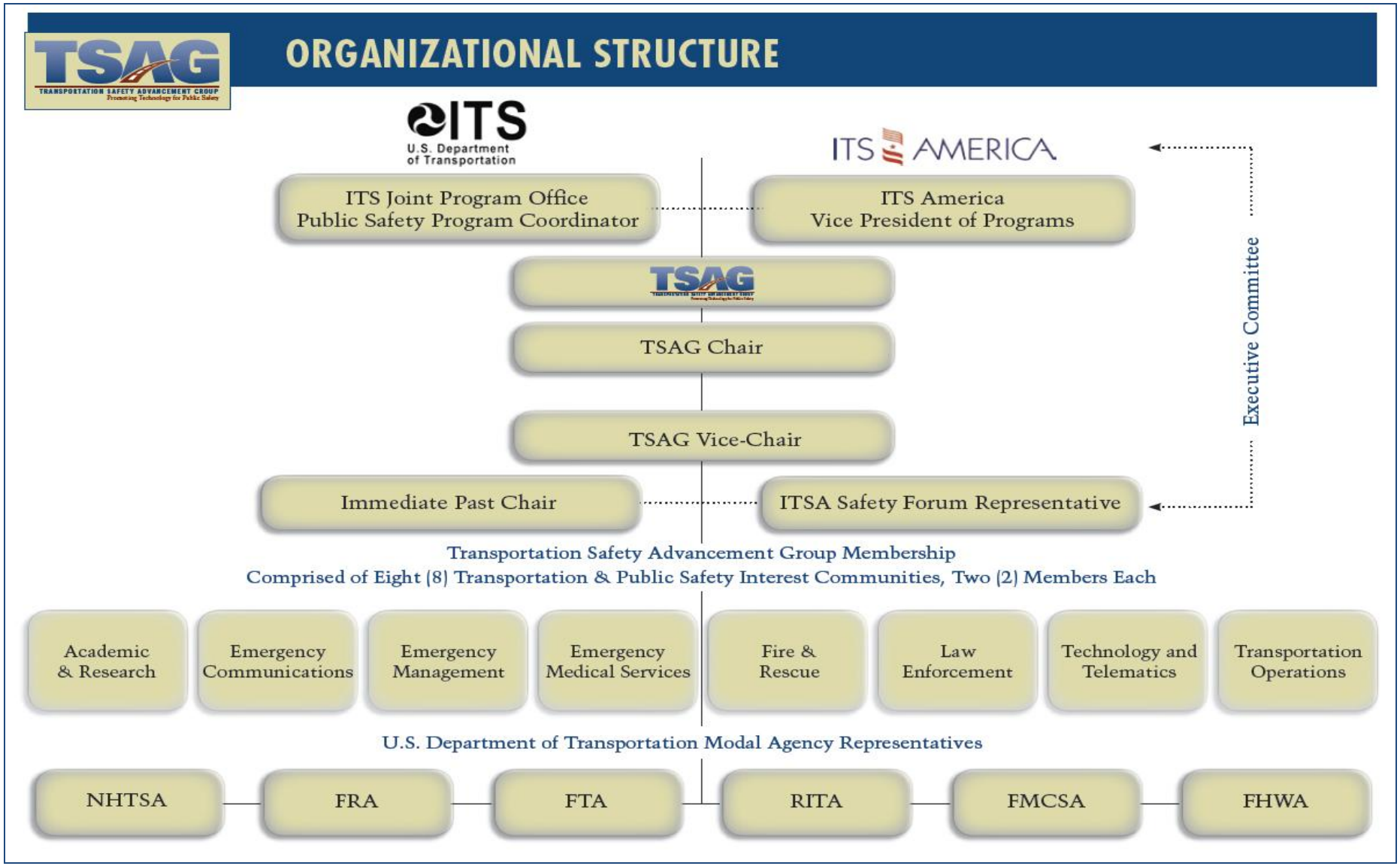

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